

CLAIMS

1. A picture display device for displaying a video signal supplied from a data process device, comprising:

5 display means for displaying a video signal;
display control means for controlling said display means to display a plurality of video signals supplied from a plurality of data process devices at a time;

10 input device connection means to which an input device for outputting a first control signal is output corresponding to a user's operation; and

control signal output means for outputting the first control signal supplied from said input device to the plurality of data process devices.

15 2. The picture display device as set forth in claim 1,

wherein said display control means is composed of:

20 memory means for storing the plurality of video signals supplied from the plurality of data process devices; and

control means for reading a video signal for one screen of said display means from said memory means.

25 3. The picture display device as set forth in claim 2,

wherein said display control means is

configured to control said memory means to store the plurality of video signals in such a manner that the addresses thereof become successive and said read control means is configured to control said memory means to designate a range of successive addresses corresponding to a video signal for one screen of said display means and read the video signal from said memory means so as to cause said display means to display the plurality of video signals at a time.

4. The picture display device as set forth in claim 1, further comprising:

operation means for outputting a second control signal corresponding to a user's operation, wherein the control of said display means is designated corresponding to the second control signal that is output from said operation means.

5. The picture display device as set forth in claim 1,

wherein the control of said display control means is designated corresponding to the first control signal supplied from said input device.

6. The picture display device as set forth in claim 5,

wherein said input device is a pointing device for designating a position corresponding to a display of said display means, and

wherein the position designated by said input

device is detected, it is determined which of the plurality of video signals displayed on said display means said input device designates corresponding to position information that represents the detected position, corresponding to the determined result, the first control signal supplied from said input device is selectively supplied to a data process device corresponding to the video signal designated by the input device.

7. The picture display device as set forth in claim 6,

wherein when the position designated by said input device is beyond a boundary of a first video signal and a second video signal adjacent thereto of the plurality of video signals displayed on said display means at a time, a display that represents the position designated by said input device is successively moved between the first video signal and the second video signal.

8. The picture display device as set forth in claim 1, further comprising:

display information display means for generating an information display signal that causes said display means to display information and combining the generated information display signal with the video signal displayed on said display means; and

cursor display means for superimposing the

generated cursor display signal with the information display signal displayed on said display information display means corresponding to the position designated by said input device so as to display a cursor,

5 wherein the designation of the position by said input device is moved from a display area of a video signal supplied from a data process device to a display area of said display information display means, corresponding to the position designated by said input device, the cursor is displayed on the display area of
10 said display information display means.

9. A picture display method for displaying a video signal supplied from a data process device, comprising the steps of:

15 displaying a video signal;
 controlling displays of a plurality of video signals supplied from a plurality of data process devices at a time at the displaying step; and

 outputting a first control signal to the
20 plurality of data process devices, the first control signal being supplied from an input device connected to an input device connection means, the first control the input device configured for outputting the first control signal corresponding to a user's operation.

25 10. A picture display device for displaying a video signal supplied from a data process device, comprising:

input means for inputting a plurality of video signals that are output from a plurality of data process devices;

communication means for bi-directionally communicating with each of the plurality of data process devices;

video process means for combining the plurality of video signals that are input by said input means into one screen corresponding to information of the picture size of each of the plurality of video signals that said communication means communicates with each of the plurality of data process devices;

display means for displaying a video signal that is output from said video signal process means;

input device connection means to which an input device is connected, the input device being configured for outputting a first control signal corresponding to a user's operation;

transmission means for generating a second control signal for controlling the plurality of data process devices corresponding to the first control signal that is output from said input device connection means and causing said communication means to transmit the first control signal and the second control signal to the plurality of data process devices; and

communication control means for controlling said communication means to communicate with the

plurality of data process devices.

11. The picture display device as set forth in claim 10,

wherein the first control signal is supplied to a selected data process device of the plurality of data process devices and the other data process devices are notified that an input of the operation has not been performed for the input device.

12. The picture display device as set forth in claim 10,

wherein a screen of said display means is composed of a plurality of display areas corresponding to the plurality of video signals,

wherein the plurality of data process devices are controlled so that a control pointer displayed in the display areas of the data process devices is moved among the display areas corresponding to an output of the input device, and

wherein a data process device corresponding to a display area in which the display pointer is displayed is selected as a controllable object using the first control signal.

13. The picture display device as set forth in claim 10,

wherein the communications of said communication means with the plurality of data process devices are controlled on the same screen of said

display means using the input device.

14. The picture display device as set forth in claim 10, further comprising:

means for issuing an operation command for the plurality of data process devices, the operation command being transmitted to the plurality of data process devices by said communication means.

15. The picture display device as set forth in claim 10, further comprising:

operation means for outputting a third control signal corresponding to a user's operation, the control of said video process means being designated corresponding to the third control signal that is output from said operation means.

16. The picture display device as set forth in claim 15, further comprising:

means for issuing an operation command for the plurality of data process devices,

wherein the issuance of the operation command is controlled corresponding to the third control signal.

17. The picture display device as set forth in claim 10, further comprising:

picture generation means for generating a picture that represents a display state of a picture by said display means, control states of the plurality of data process devices, and a control state of the picture display device.

18. The picture display device as set forth in claim 17,

wherein said picture generation means is configured for generating a picture that represents display states of pictures of the picture signals on said display means and communication states among the plurality of data process devices.

19. A picture display method for displaying a video signal supplied from a data process device, comprising the steps of:

inputting a plurality of video signals that are output from a plurality of data process devices;

bi-directionally communicating with each of the plurality of data process devices;

combining the plurality of video signals that are input at the input step into one screen corresponding to information of the picture size of each of the plurality of video signals obtained at the communication step with each of the plurality of data process devices;

displaying a video signal that is output at the video signal process step;

generating a second control signal for controlling the plurality of data process devices corresponding to a first control signal that is output from input device connection means and causing communication means to transmit the first control

signal and the second control signal to the plurality of data process devices, an input device being connected to the input device connection means, the input device being configured for outputting the first control signal corresponding to a user's operation; and
5 controlling communications with the plurality of data process devices so that they bi-directionally communicate with each other.

20. A picture display device for displaying a video signal supplied from a data process device, comprising:

communication means for bi-directionally communicating with each of a plurality of data process devices;

15 video process means for combining the plurality of video signals into one screen corresponding to information of picture sizes of the plurality of video signals that said communication means communicates with the plurality of data process devices;
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display means for displaying a video signal that is output from said video signal process means;

input device connection means to which an input device is connected, the input device being
25 configured for outputting a first control signal corresponding to a user's operation;

transmission means for generating a second

control signal for controlling the plurality of data process devices corresponding to the first control signal that is output from said input device connection means and causing said communication means to transmit the first control signal and the second control signal to the plurality of data process devices; and

communication control means for controlling said communication means to communicate with the plurality of data process devices.

21. The picture display device as set forth in claim 20,

wherein the first control signal is supplied to a selected data process device of the plurality of data process devices and the other data process devices are notified that an input of the operation has not been performed for the input device.

22. The picture display device as set forth in claim 20,

wherein a screen of said display means is composed of a plurality of display areas corresponding to the plurality of video signals,

wherein the plurality of data process devices are controlled so that a control pointer displayed in the display areas of the data process devices is moved among the display areas corresponding to an output of the input device, and

wherein a data process device corresponding

to a display area in which the display pointer is displayed is selected as a controllable object using the first control signal.

23. The picture display device as set forth in claim 20,

wherein the communications of said communication means with the plurality of data process devices are controlled on the same screen of said display means using the input device.

24. The picture display device as set forth in claim 20, further comprising:

means for issuing an operation command for the plurality of data process devices, the operation command being transmitted to the plurality of data process devices by said communication means.

25. The picture display device as set forth in claim 20, further comprising:

operation means for outputting a third control signal corresponding to a user's operation, the control of said video process means being designated corresponding to the third control signal that is output from said operation means.

26. The picture display device as set forth in claim 25, further comprising:

means for issuing an operation command for the plurality of data process devices,

wherein the issuance of the operation command

is controlled corresponding to the third control signal.

27. The picture display device as set forth in claim 20, further comprising:

5 picture generation means for generating a picture that represents a display state of a picture by said display means, control states of the plurality of data process devices, and a control state of the picture display device.

10 28. The picture display device as set forth in claim 27,

wherein said picture generation means is configured for generating a picture that represents display states of pictures of the picture signals on said display means and communication states among the plurality of data process devices.

15 29. A picture display method for displaying a video signal supplied from a data process device, comprising the steps of:

20 bi-directionally communicating with each of a plurality of data process devices;

combining the plurality of video signals into one screen corresponding to information of the picture size of each of the plurality of video signals obtained at the communication step with each of the plurality of data process devices;

25 displaying a video signal that is output at the video signal process step;

generating a second control signal for
controlling the plurality of data process devices
corresponding to a first control signal that is output
from input device connection means and causing the
communication step to transmit the first control signal
and the second control signal to the plurality of data
process devices, an input device being connected to the
input device connection means, the input device being
configured for outputting the first control signal
corresponding to a user's operation; and

controlling communications with the plurality
of data process devices so that they bi-directionally
communicate with each other.

30. A picture display device for displaying a
video signal supplied from a data process device,
comprising:

input means for allowing a plurality of video
signals that are output from a plurality of data
process devices to be input;

communication means for bi-directionally
communicating with each of the plurality of data
process devices;

video process means for combining the
plurality of video signals into one screen
corresponding to information of the picture size of
each of the plurality of video signals that said
communication means communicates with each of the

plurality of data process devices;

display means for displaying a video signal that is output from said video signal process means;

input device connection means to which an input device is connected, the input device being configured for outputting a first control signal corresponding to a user's operation;

transmission means for generating a second control signal for controlling the plurality of data process devices corresponding to the first control signal that is output from said input device connection means and causing said communication means to transmit the first control signal and the second control signal to the plurality of data process devices; and

control means for controlling a data transfer among the plurality of data process devices on the same screen of said display means using said input device.

31. The picture display device as set forth in claim 30,

wherein the first control signal is supplied to a selected data process device of the plurality of data process devices and the other data process devices are notified that an input of the operation has not been performed for the input device.

32. The picture display device as set forth in claim 30,

wherein a screen of said display means is

composed of a plurality of display areas corresponding to the plurality of video signals,

wherein the plurality of data process devices are controlled so that a control pointer displayed in the display areas of the data process devices is moved among the display areas corresponding to an output of the input device, and

wherein a data process device corresponding to a display area in which the display pointer is displayed is selected as a controllable object using the first control signal.

33. The picture display device as set forth in claim 30,

wherein the communications of said communication means with the plurality of data process devices are controlled on the same screen of said display means using the input device.

34. The picture display device as set forth in claim 30, further comprising:

means for issuing an operation command for the plurality of data process devices, the operation command being transmitted to the plurality of data process devices by said communication means.

35. The picture display device as set forth in claim 30, further comprising:

operation means for outputting a third control signal corresponding to a user's operation, the

control of said video process means being designated corresponding to the third control signal that is output from said operation means.

36. The picture display device as set forth in claim 35, further comprising:

means for issuing an operation command for the plurality of data process devices,

wherein the issuance of the operation command is controlled corresponding to the third control signal.

37. The picture display device as set forth in claim 30, further comprising:

picture generation means for generating a picture that represents a display state of a picture by said display means, control states of the plurality of data process devices, and a control state of the picture display device.

38. The picture display device as set forth in claim 37,

wherein said picture generation means is configured for generating a picture that represents display states of pictures of the picture signals on said display means and communication states among the plurality of data process devices.

39. A picture display method for displaying a video signal supplied from a data process device, comprising the steps of:

allowing a plurality of video signals that

are output from a plurality of data process devices to be input;

bi-directionally communicating with each of the plurality of data process devices;

5 combining the plurality of video signals into one screen corresponding to information of the picture size of each of the plurality of video signals obtained at the communication step with each of the plurality of data process devices;

10 displaying a video signal that is output at the video signal process step;

generating a second control signal for controlling the plurality of data process devices corresponding to a first control signal that is output from input device connection means and causing the communication step to transmit the first control signal and the second control signal to the plurality of data process devices, an input device being connected to the input device connection means, the input device being
15 configured for outputting the first control signal corresponding to a user's operation; and

20 controlling a data transfer among the plurality of data process devices on the same screen on the display means using the input device.

25 40. A picture display device for displaying a video signal supplied from a data process device, comprising:

display means for allowing a plurality of video signals that are output from a plurality of data process devices to be input and displaying the plurality of video signals that have been input on the same screen;

input device connection means to which an input device for controlling a data process device selected from the plurality of data process devices is connected; and

control means for controlling a data transfer among the plurality of data process devices on the same screen of said display means using said input device.

41. The picture display device as set forth in claim 40,

wherein an output of the input device is supplied to a selected data process device of the plurality of data process devices and the other data process devices are notified that an output of the operation has not been performed for the input device.

42. The picture display device as set forth in claim 40,

wherein a screen of said display means is composed of a plurality of display areas corresponding to the plurality of video signals,

wherein the plurality of data process devices are controlled so that a control pointer displayed in the display areas of the data process devices is moved

among the display areas corresponding to an output of the input device, and

wherein a data process device corresponding to a display area in which the display pointer is displayed is selected as a controllable object using the output of the input device.

43. The picture display device as set forth in claim 40,

wherein a data transfer for the plurality of data process devices is controlled by said control means on the same screen of said display means using the input device.

44. The picture display device as set forth in claim 40, further comprising:

means for issuing an operation command for the plurality of data process devices, the operation command being transmitted to the plurality of data process devices by said communication means.

45. The picture display device as set forth in claim 40, further comprising:

operation means for outputting a control signal corresponding to a user's operation, the control of the display of said video process means being designated corresponding to the control signal that is output from said operation means.

46. The picture display device as set forth in claim 45, further comprising:

means for issuing an operation command for the plurality of data process devices,

wherein the issuance of the operation command is controlled corresponding to the control signal.

5 47. The picture display device as set forth in claim 40, further comprising:

picture generation means for generating a picture that represents a display state of a picture by said display means, control states of the plurality of data process devices, and a control state of the picture display device.

10 48. The picture display device as set forth in claim 47,

wherein said picture generation means is configured for generating a picture that represents display states of pictures of the picture signals on said display means and communication states among the plurality of data process devices.

15 49. A picture display method for displaying a video signal supplied from a data process device, comprising the steps of:

20 allowing a plurality of video signals that are output from a plurality of data process devices to be input and displaying the plurality of video signals that have been input on the same screen;

25 controlling a data process device selected from the plurality of data process devices by a

connected input device; and

controlling a data transfer among the plurality of data process devices on the same screen displayed at the display step using the input device.

5 50. A picture display device for displaying a video signal supplied from a data process device, comprising:

input means for allowing a plurality of video signals that are output from a plurality of data process devices to be input;

frequency measuring means for measuring synchronous frequencies of the plurality of video signals;

10 video signal process means for combining the plurality of video signals into one screen corresponding to the measured results of said frequency measuring means;

15 display means for displaying a video signal that is output from said video signal process means;

20 input device connection means to which an input device is connected, the input device being configured for outputting a first control signal corresponding to a user's operation;

25 control means for generating a second control signal for controlling the plurality of data process devices corresponding to the first control signal that is output from said input device connection means; and

communication means for transmitting the first control signal and the second control signal to the plurality of data process devices.

51. The picture display device as set forth in claim 50,

wherein the first control signal is supplied to a selected data process device of the plurality of data process devices and the other data process devices are notified that an input of the operation has not been performed for the input device.

52. The picture display device as set forth in claim 50,

wherein a screen of said display means is composed of a plurality of display areas corresponding to the plurality of video signals,

wherein the plurality of data process devices are controlled so that a control pointer displayed in the display areas of the data process devices is moved among the display areas corresponding to an output of the input device, and

wherein a data process device corresponding to a display area in which the display pointer is displayed is selected as a controllable object using the first control signal.

53. The picture display device as set forth in claim 50,

wherein the communications of said

communication means with the plurality of data process devices are controlled on the same screen of said display means using the input device.

54. The picture display device as set forth in claim 50, further comprising:

means for issuing an operation command for the plurality of data process devices, the operation command being transmitted to the plurality of data process devices by said communication means.

55. The picture display device as set forth in claim 50, further comprising:

operation means for outputting a third control signal corresponding to a user's operation, the control of said video process means being designated corresponding to the third control signal that is output from said operation means.

56. The picture display device as set forth in claim 55, further comprising:

means for issuing an operation command for the plurality of data process devices,

wherein the issuance of the operation command is controlled corresponding to the third control signal.

57. The picture display device as set forth in claim 50, further comprising:

picture generation means for generating a picture that represents a display state of a picture by said display means, control states of the plurality of

data process devices, and a control state of the picture display device.

58. The picture display device as set forth in claim 57,

5 wherein said picture generation means is configured for generating a picture that represents display states of pictures of the picture signals on said display means and communication states among the plurality of data process devices.

10 59. The picture display device as set forth in claim 50,

wherein said communication means is configured for communicating with the plurality of data process devices.

15 60. The picture display device as set forth in claim 50,

wherein the video signals are input by said communication means.

20 61. A picture display method for displaying a video signal supplied from a data process device, comprising the steps of:

allowing a plurality of video signals that are output from a plurality of data process devices to be input;

25 measuring the synchronous frequencies of the plurality of video signals;

combining the plurality of video signals into

one screen corresponding to the measured results at the frequency measuring step;

displaying a video signal that is output at the video signal process step;

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generating a second control signal for controlling the plurality of data process devices corresponding to a first control signal that is output from input device connection means, an input device being connected to the input device connection means, the input device being configured for outputting the first control signal corresponding to a user's operation; and

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transmitting the first control signal and the second control signal to the plurality of data process devices.

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